

ABSTRACT

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The present invention relates to a defect inspection apparatus for a phase shift mask that is capable of detecting phase shifter defects that cannot be detected by conventional inspection techniques, by a simple method using an optical method and a comparison of electric signals. In a defect inspection apparatus for a phase shift mask having a phase shifter pattern provided on a mask transparent substrate 1 to produce a phase difference in transmitted light, after the phase shifter pattern has been formed, a phase shifter defect inspection is performed from the mask transparent substrate 1 side of the phase shift mask 1. To perform the defect inspection, light 12 is applied to the phase shift mask 1 from the mask transparent substrate 1 side thereof, and reflection images of at least two different phase shifter pattern fabricated regions are captured by photoelectric conversion light-receiving elements 15a and 15b. The respective image signals 17 and 18 of the reflection images are compared with each other to detect a defect on the mask from the difference between the signals.